

PEO Ammo Overview



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Bottom Line Up Front

- PEO Ammunition is committed to providing superior ammunition to the soldier
- PEO Ammunition responsible for Life-Cycle acquisition management of:
 - ✓ conventional ammunition which includes integrating budgets, acquisition strategies, R&D and life-cycle management across all ammunition families.
 - ✓ Single ammunition voice in the budget process
 - ✓ Industrial Preparedness Planning, representing the munitions industrial base.
- PEO Ammunition is located at Picatinny Arsenal
 - ✓ Home of world-class Army R&D facility





PEO Ammo Organization

ASAALT DASCs

★★
PEO Ammunition

Director – Business
Director – Programs
Director – Industrial Base

🏆
**Deputy for
Research, Development
& Production**

🏆
**General Manager
Ammunition**

Close Combat Systems

✈️
Combat Ammo
Systems Indirect Fire

✈️
Maneuver Ammo
System Direct Fire

✈️
Joint Services

Organic Base
Operations
(Ammo Plants)

Demo, Mines,
MICLIC & Grenades

✳️
Conventional Ammo
(Artillery & Mortars)

✳️
Large Caliber

✳️
DEMIL

✳️
Excalibur

✳️
Medium & Small
Caliber



Transformation From The Ammo Perspective

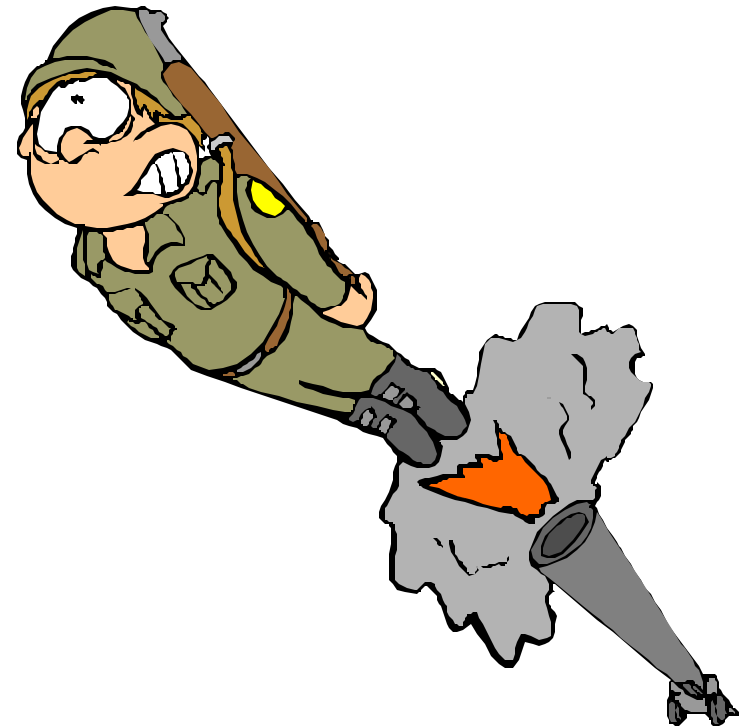
- Newer ammunition will be smarter, smaller, more lethal, more accurate, automation friendly and cost effective
 - ✓ Vehicles will be smaller, less storage
 - ✓ Logistics is key
 - ✓ Insensitivity is critical
- Must think of ammunition as a family of munitions with maximum commonality.
 - ✓ Anticipate limited quantity of “smart” ammo supported by larger quantity of “competent” ammo





Lethality Improvements

- Future Ammunition with state-of-the-art technologies
 - ✓ Precision Engagements
 - ✓ Extended Range
 - ✓ Reduced Collateral Damage
 - ✓ Increased Survivability
 - ✓ Reduced Logistics Footprint





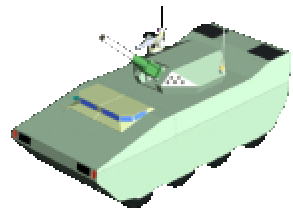
Government's Efforts Are Aligned With LSI's Family of Combat Systems

**120mm
BLOS / LOS**



- Advanced KE
- Beyond Line of Sight Munitions

120mm Mortar



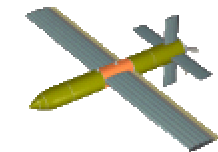
- Precision Guided Mortar Munition (PGMM)
- Extended Range DPICM
- CRAMM
- Mortar Fire Control
- AMOS

155mm NLOS



- XM982 Excalibur
- Low Cost Course Correction
- Next Generation Scatterable Mines (NGSM)

SUAV



- Quicklook
- Air Standoff Mine Detection System (ASTAMIDS)

Combat Robots

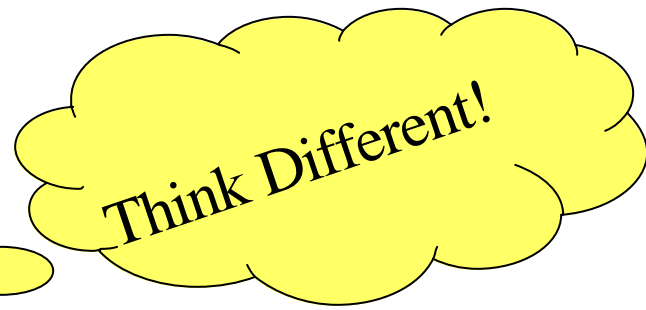


- OCSW
- Bursting Munitions
- Medium Caliber Program
- Ground Standoff Mine Detection System



Change Acquisition Mentality

- Systems Engineering From The “Systems of Systems” Perspective
- New Approach To Ammo Development
 - ✓ Commonality
 - ✓ Spiral/Block Development
 - ✓ Continuous R&D/Block upgrade
- Ultra-reliability
- Logistics Upfront
- Industrial Base Preparedness





Future Munitions Goals



**AFFORDABLE
&
EXECUTABLE**

Reliable
Accurate
Lethal

Cost Effective
Commonality
Upgradeable

Realistic Training
Maintainable
Reduced Log
Footprint

Responsive
Industrial Base
Planned
Demil/Recapture
Environment
Friendly



Modular/Common Components

CURRENT MUNITIONS

Small/med cal
25mm
Javelin
TOW
Tank
2.75" Rocket
Mortars
Howitzers
Hellfire
MLRS
ATACMS

COMMONALITY PLAN

Near Term

Mid Term

Far Term

Munitions with Common Sub-Components

Common Propellants

Common Fuzes

Common Sub-munitions

Common Guidance

Common Warheads

Munitions with Common Sub-Components

ENDSTATE

Common Short-Range Munitions

Common Mid-Range Munitions

Common Deep Range Munitions



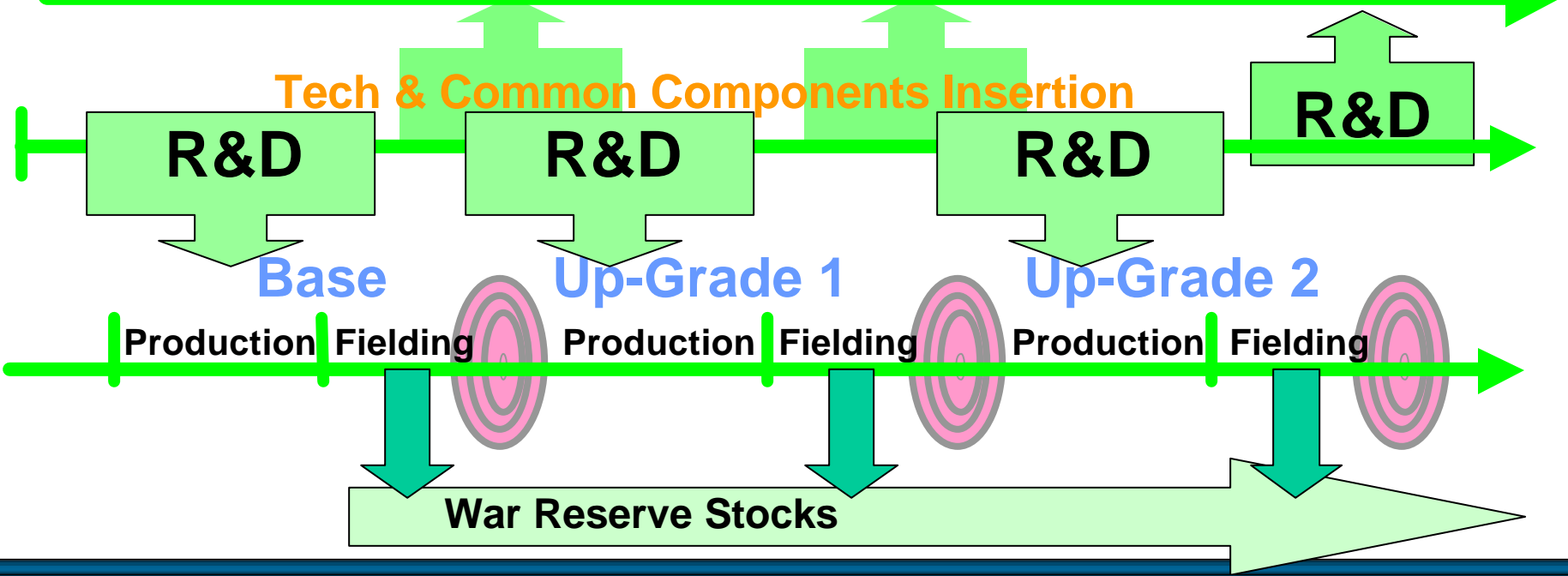
Planned Upgrades/Tech Insertion

Current Approach



Modular Approach

OTHER SYSTEM(S)





Ammunition Logistics Initiatives

- **Munitions survivability hardware & software**
- **Palletized load system – slipper**
- **Strategic configured loads / mission configured loads**
- **Insensitive munitions**
- **Remote readiness asset prognostics/diagnostics system (RRAPDS)**
- **Smart distribution**
- **Maintenance free ammunition**



Ultra-reliability

- A Key pillar for transforming Army into Objective Force
- Reliability so robust battlefield maintenance limited to battle damage





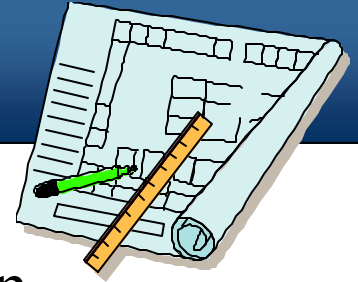
Keys to Ultra-reliability For Ammunition

- Robust Ammunition Design
- Process Control and Reliability/Quality Assurance in Production
- Reliability Assessment of the Ammunition Stockpile and Asset Visibility





Robust Ammunition Design

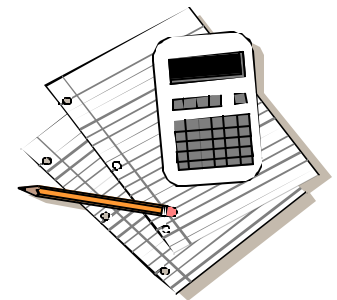
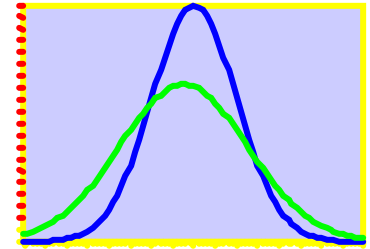


- Insensitive to manufacturing, transportation, storage & operational use environments
- Rigorous, realistic definition of these environments
- Thorough design engineering understanding
- Identification of “key characteristics” and “weak links”
- Provides the focus for production and stockpile ultra-reliability assurance efforts



Process Control and Reliability/ Quality Assurance in Production

- Assure "key characteristics" are strictly controlled in the manufacturing process
- Continual feedback/assessment during production to assure what is "key"
- Make adjustments as knowledge base expands
- Build proper validations of stockpile life characteristics into performance specs





Ultra-reliability

- Ultra-reliability for ammunition is achievable and deliverable to the Objective Force with the following focus:
 - ✓ Realism and total understanding of the manufacturing, operational storage, and use environments
 - ✓ Robust and adaptable designs
 - ✓ Knowing/documenting/challenging "how and why" an item performs successfully or not ("key characteristics/weak links")
 - ✓ Controlling "key characteristics/weak links"
 - ✓ Logistically aligning ultra-reliability materiel assets with deliveries to the battlefield



Industrial Base Challenges

- **Munitions Production Base Capacity**
 - ✓ Down 68% Last 10 Years
 - ✓ Currently Underutilized
- **Single Sources**
 - ✓ 71 of 302 Critical Components
- **Minimal Incentives for Contractor Capital Investment**
- **Manufacturing Capability**
 - ✓ Currently Focused on Legacy Systems
 - ✓ Marginal Future Munitions Capacity
- **Surge Capability Virtually Non-Existent**





Industrial Base Preparedness Planning

- PEO Providing Centralized Management Of DOD's Organic & Industrial Munitions Production Base

✓Optimizing Coordination, Communication and Decision Making That Affects Requirements & Production

- Overarching Strategic Vision:

“A Responsive, Innovative, Efficient Manufacturing Base, Capable Of Meeting National Security Requirements While Preserving Critical Core Competencies And Relying To The Maximum Practical Extent On Competition & Private Ownership”

- Strategic Objectives:

✓Preserve Critical Core Competencies
✓Modernize Base

- Incentivize Commercial Investment
- Transfer Government Prototyping Technology & Manufacturing Knowledge
- Integrated Data Environments
- Flexible, Agile Multi-Production Manufacturing Technologies

✓Transform Base To Meet Legacy, Interim, Objective Force Warfighter Requirements
✓Increase Operating Efficiencies & Affordability
✓Assess And Balance Industrial Base Risk



Summary

- Train is moving fast and we are on it !
- Ammunition is critical to the Army transformation

